ABSTRACT OF THE DISCLOSURE

A transmission network system includes a head end for generating a downstream signal having a substantially expanded range of frequencies, a communication medium, such as a fiber optic cable and coaxial cable coupled to the head end section for routing the signal through the transmission network to a plurality of subscribers, and compensation units coupled to operative components of the system for receiving the transmitted signals, selectively amplify and attenuate the signal levels within the substantially expanded range of frequencies, and forwarding the signals to the subscribers. The system is enhanced to have improved information-carrying capabilities by the utilization of a broadband signal by the modulation of the signal across a substantially expanded range of frequencies and by the transmission of the signal via a series of operative network particles selectively modified or added to the cable plant in order to provide suitable processing of the signal elements spread over the entire spectrum of the substantially expanded frequency range.